VOLUME 22
LIST OF CONTENTS

Number 1

COLLECTED PAPERS FROM
THE TENTH ANNUAL MEETING OF THE SOCIETY FOR ORGANIC PETROLOGY

Brian J. Cardott, Carolyn L. Thompson-Rizer and Roger Woods	V	Introduction
Rui Lin	1	An interlaboratory comparison of vitrinite reflectance measurement
S. C. Teerman, B. J. Cardott, R. W. Harding, M. J. Lemos De Sousa, D. R. Logan, H. J. Pinheiro, M. Reinhardt, C. L. Thompson-Rizer and R. A. Woods	11	Source rock/dispersed organic matter characterization—TSOP Research Subcommittee Results
James C. Hower, Ken B. Anderson, Glenda Mackay, Henrique Pinheiro, Deolinda Flores and Manuel J. Lemos De Sousa	27	Interlaboratory comparisons of petrography of liquefaction residues from three Argonne Premium coals
U. M. Graham, J. C. Hower, R. F. Rathbone and M. M. Spears	33	Pyrolysis processing characteristics of Kentucky cannel coals
Zhiwen Han, Michael A. Kruge, John C. Crelling and B. Artur Stankiewicz	39	Organic geochemical characterization of the density fractions of a Permian torbanite
Brenda S. Pierce, Cortland F. Eble and Ronald W. Stanton	51	Comparison of the petrography, palynology, and paleobotany of the Little Fire Creek coal bed, southwestern Virginia, U.S.A.
H. B. Lo and B. J. Cardott	73	Detection of natural weathering of Upper McAlester coal and Woodford Shale, Oklahoma, U.S.A.
Prasanta K. Mukhopadhyay, John A. Wade and Michael A. Kruge	85	Organic facies and maturation of Jurassic/Cretaceous rocks, and possible oil-source rock correlation based on pyrolysis of asphaltenes, Scotian Basin, Canada
Katherine E. Brown and Arthur D. Cohen	105	Stratigraphic and micropetrographic occurrences of pyrite in sediments at the confluence of carbonate and peat-forming depositional systems, southern Florida, U.S.A.
Tim E. Ruble and R. Paul Philp	127	Uinta Basin Wurtzilite: a product of natural vulcanization?
Charles R. Landis and John R. Castaño	137	Maturation and bulk chemical properties of a suite of solid hydrocarbons

C. E. Barker and Yvonne Bone — 151 — The minimal response to contact metamorphism by the Devonian Buchan Caves Limestone, Buchan Rift, Victoria, Australia

A. N. Bishop and G. D. Abbott — 165 — Vitrinite reflectance and molecular geochemistry of Jurassic sediments: the influence of heating by Tertiary dykes (northwest Scotland)

Johan K. Michelsen and Ganjavar Khavari Khorasani — 179 — The kinetics of thermal degradation of individual oil-generating macerals: calibration with microscopical fluorescence spectrometry and bulk flow pyrolysis

Ronald W. T. Wilkins, John R. Wilmshurst, George Hladky, Michael V. Ellacott and Carol P. Buckingham — 191 — Should fluorescence alteration replace vitrinite reflectance as a major tool for thermal maturity determination in oil exploration?

Ganjavar Khavari Khorasani and Johan K. Michelsen — 211 — Four-dimensional fluorescence imaging of oil generation: development of a new fluorescence imaging technique

General Papers

Notes

N. Spooner, J. M. Getliff, M. A. Teece, R. J. Parkes, J. W. Leftley, P. G. Harris and J. R. Maxwell — 225 — Formation of mesopyrophaeophorbide *a* during anaerobic bacterial degradation of the marine prymnesiophyte *Emiliania huxleyi*

Rudolf Jaffé and Karen B. Hausmann — 231 — Origin and early diagenesis of arborinone/isoarborinol in sediments of a highly productive freshwater lake

i — Announcements

iii — Forthcoming Papers

Number 2

Joseph A. Curiale, Pe Kyi, Ian D. Collins, Aung Din, Kyaw Nyein, Maung Nyunt and Charles J. Stuart — 237 — The central Myanmar (Burma) oil family—composition and implications for source

Lung-Chuan Kuo — 257 — Lower Cretaceous lacustrine source rocks in northern Gabon: effect of organic facies and thermal maturity on crude oil quality

A. Otto, H. Walther and W. Püttmann — 275 — Molecular composition of a leaf- and root-bearing Oligocene Oxbow Lake Clay in the Weisselster Basin, Germany

Gordon B. Curry, Benny K. G. Theng and Honghan Zheng — 287 — Amino acid distribution in a Loess–Palaeosol sequence near Luochuan, Loess Plateau, China

István Vető, Magdolna Hetényi, Attila Demény and Ede Hertelendi — 299 — Hydrogen index as reflecting intensity of sulphidic diagenesis in non-bioturbated, shaly sediments

Alexander Chakhmakhchev, Yoshikazu Sampei and Noriyuki Suzuki — 311 — Geochemical characteristics of oils and source rocks in the Yamal Peninsula, West Siberia, Russia

Elijah J. Ukpabio, Paul A. Comet, Roger Sassen and James M. Brooks — 323 — Triterpenes in a Nigerian oil

Chen Jianyu, Hao Fang, Ding Zhengyian and Liu Yianzong — 331 — Petroleum potential and history of Yitong Basin, China

Huang Difan, Zhang Dajiang and Li Jinchao — 343 — The origin of 4-methyl steranes and pregnanes from Tertiary strata in the Qaidam Basin, China

Note

E. Lichtfouse, B. Elbisser, J. Balesdent, A. Mariotti and G. Bardoux — 349 — Isotope and molecular evidence for direct input of maize leaf wax *n*-alkanes into crop soils

Book Review

Keith A. Kvenvolden — 353 — "Organic Geochemistry—Principles and Applications", edited by Michael H. Engel and Stephen A. Macko

Number 3–5

ADVANCES IN ORGANIC GEOCHEMISTRY 1993

Kjell Øygard — VII — Preface

IX — Scientific Committee, National Committee and Local Committee

XI — Welcome Address by Kjell Øygard

XIII — Welcome Address by Bård Johansen

XV — The Pieter Schenck Award

General Petroleum Geochemistry

Malvin Bjorøy, Peter B. Hall and Rita P. Moe — 355 — Stable carbon isotope variation of *n*-alkanes in Central Graben oils

P. B. Hall, D. Stoddart, M. Bjorøy, S. R. Larter and J. E. Brasher — 383 — Detection of petroleum heterogeneity in Eldfisk and satellite fields using thermal extraction, pyrolysis–GC, GC–MS and isotope techniques

J. R. Gormly, S. P. Buck and H. M. Chung — 403 — Oil–source rock correlation in the North Viking Graben

B. Horsfield, D. J. Curry, K. Bohacs, R. Littke, J. Rullkötter, H. J. Schenk, M. Radke, R. G. Schaefer, A. R. Carroll, G. Isaksen and E. G. Witte — 415 — Organic geochemistry of freshwater and alkaline lacustrine sediments in the Green River Formation of the Washakie Basin, Wyoming, U.S.A.

A. G. Requejo, C. C. Wielchowsky, M. J. Klosterman and R. Sassen — 441 — Geochemical characterization of lithofacies and organic facies in Cretaceous organic-rich rocks from Trinidad, East Venezuela Basin

Geochemistry of Gas and Condensates

G. P. A. Muscio, B. Horsfield and D. H. Welte — 461 — Occurrence of thermogenic gas in the immature zone—implications from the Bakken in-source reservoir system

Linda Stalker, Paul Farrimond and Stephen R. Larter — 477 — Water as an oxygen source for the production of oxygenated compounds (including CO_2 precursors) during kerogen maturation

Climate Changes and Palaeoenvironments

Joseph A. Curiale — 487 — Geochemical anomalies at the Cenomanian–Turonian boundary, northwest New Mexico

A. Rosell-Melé, J. Carter and G. Eglinton — 501 — Distributions of long-chain alkenones and alkyl alkenoates in marine surface sediments from the North East Atlantic

Philippe Bertrand, Elisabeth Lallier-Verges and Mohammed Boussafir — 511 — Enhancement of accumulation and anoxic degradation of organic matter controlled by cyclic productivity: a model

Andrew P. Murray, Roger E. Summons, Christopher J. Boreham and Lesley M. Dowling — 521 — Biomarker and *n*-alkane isotope profiles for Tertiary oils: relationship to source rock depositional setting

Maturation, Kinetic Modelling and Migration

Erik W. Tegelaar and Rohinton A. Noble — 543 — Kinetics of hydrocarbon generation as a function of the molecular structure of kerogen as revealed by pyrolysis–gas chromatography

E. Lafargue, J. Espitalie, T. M. Broks and B. Nyland — 575 — Experimental simulation of primary migration

Jean K. Whelan, Mahlon C. Kennicutt II, James M. Brooks, Dietmar Schumacher and Lorraine B. Eglinton — 587 — Organic geochemical indicators of dynamic fluid flow processes in petroleum basins

P. Landais, R. Michels and M. Elie — 617 — Are time and temperature the only constraints to the simulation of organic matter maturation?

J. L. Rudkiewicz, O. Brévart, J. Connan and F. Montel — 631 — Primary migration behaviour of hydrocarbons: from laboratory experiments to geological situations through fluid flow models

Pollution and Environmental Geochemistry

Martin G. Fowler, Paul W. Brooks, Margaret Northcott, Mark W. G. King, James F. Barker and Lloyd R. Snowdon — 641 — Preliminary results from a field experiment investigating the fate of some creosote components in a natural aquifer

Mark B. Yunker, Robie W. Macdonald and Brian G. Whitehouse — 651 — Phase associations and lipid distributions in the seasonally ice-covered Arctic estuary of the Mackenzie Shelf

Hans H. Richnow, Richard Seifert, Jens Hefter, Matthias Kästner, Bernd Mahro and Walter Michaelis — 671 — Metabolites of xenobiotica and mineral oil constituents linked to macromolecular organic matter in polluted environments

Geochemistry of Macromolecules and Biomarkers

Pim F. van Bergen, Margaret E. Collinson, Patrick G. Hatcher and Jan W. de Leeuw — 683 — Lithological control on the state of preservation of fossil seed coats of water plants

Walter A. Hartgers, Jaap S. Sinninghe Damsté, A. G. Requejo, Jim Allan, John M. Hayes, Yue Ling, Tian-Min Xie, Julie Primack and Jan W. de Leeuw — 703 — A molecular and carbon isotopic study towards the origin and diagenetic fate of diaromatic carotenoids

T.-G. Wang, Sheng Guoying, Cheng Junhong and Fu Jiamo — 727 — Newly proposed methyltricyclic and methyltetracyclic terpane series in the Shuicheng boghead coal, China

Joan Villanueva, Joan O. Grimalt, Rutger de Wit, Brendan J. Keely and James R. Maxwell — 739 — Sources and transformations of chlorophylls and carotenoids in a monomictic sulphate-rich karstic lake environment

C. Flaviano, F. Le Berre, S. Derenne, C. Largeau and J. Connan — 759 — First indications of the formation of kerogen amorphous fractions by selective preservation. Role of non-hydrolysable macromolecular constituents of Eubacterial cell walls

Organic Geochemistry of Non-hydrocarbons

Neil Spooner, H. Rodger Harvey, Gareth E. S. Pearce, Christian B. Eckardt and James R. Maxwell — 773 — Biological defunctionalisation of chlorophyll in the aquatic environment II: action of endogenous algal enzymes and aerobic bacteria

Timothy I. Eglinton, Joyce E. Irvine Appathurai Vairavamurthy, Weiqing Zhou and Bernard Manowitz — 781 — Formation and diagenesis of macromolecular organic sulfur in Peru margin sediments

Pierre Metzger and Claude Largeau 801 A new type of ether lipid comprising phenolic moieties in *Botryococcus braunii*. Chemical structure and abundance, and geochemical implications

M. Ioppolo-Armanios, R. Alexander and R. I. Kagi 815 Identification and origins of isopropylmethylphenols in crude oils

Stefan Schouten, Wim de Graaf, Jaap S. Sinninghe Damsté, Giel B. van Driel and Jan W. de Leeuw 825 Laboratory simulation of natural sulphurization: II. Reaction of multi-functionalized lipids with inorganic polysulphides at low temperatures

New Techniques and Equipment

Sunil Bharati, Geir Arne Røstum and Rita Løberg 835 Calibration and standardization of Iatroscan (TLC–FID) using standards derived from crude oils

Y. Tang and M. Stauffer 863 Multiple Cold Trap Pyrolysis Gas Chromatography: a new technique for modeling hydrocarbon generation

Ingun Skjevrak, Steve Larter, Ger van Graas, Martin Jones and Edle Berge 873 A practical approach to quantitative group type analysis of kerogens using non-dedicated pyrolysis-mass spectrometry equipment: applications and comparison with other methods

i Announcements

iii Forthcoming Papers

Number 6

J. C. del Río, F. J. González-Vila, F. Martín and T. Verdejo 885 Characterization of humic acids from low-rank coals by ^{13}C-NMR and pyrolysis-methylation. Formation of benzenecarboxylic acid moieties during the coalification process

Maowen Li, Steve R. Larter and Bowen Mei 893 Early generation of 20S-5α(H),14α(H),17α(H)- and 5α(H),14β(H),17β(H)-steranes in low salinity lacustrine shales

Edwin van der Heijden and Jaap J. Boon 903 A combined pyrolysis mass spectrometric and light microscopic study of peatified *Calluna* wood isolated from raised bog peat deposits

Maria Mastalerz and R. Marc Bustin 921 Variation in reflectance and chemistry of vitrinite and vitrinite precursors in a series of Tertiary Coals, Arctic Canada

Keith A. Kvenvolden, John B. Rapp, Frances D. Hostettler and Robert J. Rosenbauer 935 Laboratory simulation of hydrothermal petroleum formation from sediment in Escanaba Trough, offshore from northern California

Orest E. Kawka and Bernd R. T. Simoneit — 947 — Hydrothermal pyrolysis of organic matter in Guaymas Basin: I. Comparison of hydrocarbon distributions in subsurface sediments and seabed petroleums

M. H. Conte, L. A. S. Madureira, G. Eglinton, D. Keen and C. Rendall — 979 — Millimeter-scale profiling of abyssal marine sediments: role of bioturbation in early sterol diagenesis

D. A. Azevedo, F. R. Aquino Neto and B. R. T. Simoneit — 991 — Extended saturated and monoaromatic tricyclic terpenoid carboxylic acids found in Tasmanian tasmanite

Xu-Chen Wang and Cindy Lee — 1005 — Sources and distribution of aliphatic amines in salt marsh sediment

Notes

Éric Lichtfouse, Sylvie Derenne, André Mariotti and Claude Largeau — 1023 — Possible algal origin of long chain odd *n*-alkanes in immature sediments as revealed by distributions and carbon isotope ratios

Roger Sassen and Ian R. MacDonald — 1029 — Evidence of structure H hydrate, Gulf of Mexico continental shelf

I — Reviewers for 1993 and 1994

III — Announcement

V — Forthcoming Papers

OG 22/6—K